Is Multidimensional Poverty Different from Monetary Poverty in Lampung Province?

Arivina Ratih[✉], Toto Gunarto, and Asih Murwiati

Economics Development, Lampung University, Bandar Lampung, Lampung, Indonesia
arivinaratih@gmail.com, toto.gunarto@yahoo.co.id,
asih.murwiati@feb.unila.ac.id

Abstract. Multidimensional poverty is an approach used to explain poverty from another point of view. Poverty is commonly measured by the benchmark poverty line (monetary poverty), which is based on the amount of expenditure for a group of consumer goods. Usually, different poverty calculation methods will produce different results. This study uses Susenas data from 2017 to 2020 for the district and city levels in Lampung Province. The calculation method used was adapted from Alkire and Santos in 2010 with some indicator adjustments. The years of education used in this study is nine years and dropouts are assessed until the ninth year. The child mortality rate is not used but replaced by additional nutritional indicators in the form of minimal consumption of calories and protein. Another omitted variable is the owner of certain property that is replaced by the floor area of the house. The results found are the number of multidimensional poverty tends to decrease in Lampung Province. In addition, the number of multidimensional poverty is greater than the amount of poverty with the monetary method. Based on this, poverty alleviation efforts need to consider various dimensions other than public expenditure.

Keywords: Lampung · Multidimensional · Poverty

1 Introduction

Poverty is still a homework for many countries and Indonesia is no exception. Indonesia's geographical conditions give rise to diversity in terms of natural and human resources as well as social and cultural, it creates variety in the pattern of the economy so as to allow inequality in many dimensions of measurement. Indonesia's poverty rate has been calculated by the Central Statistics Agency (BPS) with an expenditure or consumption approach for a group of food and non-food products [1]. People deprived as poor if their spending or consumption is below the poverty line. This calculation method is considered to have weaknesses because it cannot describe the poverty condition comprehensively.

A complete picture of poverty is needed to help reduce poverty, which is the first goal of the SDGs. Because of that, a multidimensional calculation approach emerged which was initiated by Alkire and Santos (2010). This approach emerged through OPHI (Oxford Poverty and Human Development Initiative) in commemoration of the 20th

anniversary of the Human Development Report by the United Nations Development Program. The new method has then become a reference in multidimensional research in many countries, its calculations and analysis are still undergoing development according to the needs of the observation area [2–10].

Measuring poverty using the multidimensional method will provide a greater value than the monetary method [11, 12]. This is due to the use various calculation indicators. It is intended to obtain a more complete portrait of poverty. So the purpose of this research is to find out the condition of poverty with multidimensional methods compared to poverty with monetary methods.

2   Literature Review

The multidimensional poverty approach tries to analyze poverty associated with human development so that it is expected to be able to produce better policies. Multidimensional poverty is measured using the following indicators (Alkire and Santos, 2010).

1. Education

   - Years of schooling (weighted score 1/6)
   - Child enrolment (weighted score 1/6)

2. Health

   - Child mortality (weighted score 1/6)
   - Nutrition (weighted score 1/6)

3. Standard of living

   - Electricity (weighted score 1/18)
   - Dringking water (weighted score 1/18)
   - Sanitation (weighted score 1/18)
   - Flooring (weighted score 1/18)
   - Cooking fuel (weighted score 1/18)
   - Assets (weighted score 1/18)

3   Methodology and Data Analysis

The research area is Lampung Province because consistently included in the top four poorest areas in Sumatra by the monetary method. There are fifteen regencies and cities in Lampung Province, they are Lampung Barat, Tanggamus, Lampung Selatan, Lampung Timur, Lampung Tengah, Lampung Utara, Way Kanan, Tulang Bawang, Pesawaran, Pringsewu, Mesuji, Tulang Bawang Barat, Pesisir Barat, Bandar Lampung, and Metro. The research period is 2019 and 2020, these are the year during which the pandemic is still ongoing. The indicators used can be seen as follows.

1. Education

   - Years of schooling, modification is done by adding the school year to 9 (weighted score 1/6)

- Child enrolment, modification is done by adding the school year to 9 (weighted score 1/6)

2. Health

- Calorie intake [14] (weighted score 1/6)
- Protein intake [14] (weighted score 1/6)

3. Standard of living

- Electricity (weighted score 1/18)
- Dringking water (weighted score 1/18)
- Sanitation (weighted score 1/18)
- Flooring (weighted score 1/18)
- Cooking floor (weighted score 1/18)
- Floor area, deprived poor if the floor area of the house per capita is less than 7,2m^2 (weighted score 1/18)

4 Research Result and Discussion

Multidimensional poverty calculated in this study uses data from the Central Statistics Agency (BPS) in the form of Susenas Kor and consumption data for 2019 and 2020 in Lampung Province. Susenas Kor provides data related to household welfare with detailed data in the form of education, health, population, and purchasing power (www.sirusa. Bps.go.id). The sample used by BPS is 9,653 households in 2019 and 10,328 households in 2020, spread across districts or cities in Lampung Province. Multidimensional poverty as measured by the percentage of poor people in multidimensional (H) has the following characteristics of the data (Table 1).

Table 1. Characteristics Of Poor People In Multidimensional Poverty (H)

Indicators	2019	2020
Min. Value	8,669	5,738
Max. Value	26,399	21,774
Mean	16,646	15,817

Note: Data in percentage

The number of multidimensional poverties can be seen from the percentage value of the poor, measured by three main indicators. The percentage of multidimensional poverty has decreased. It can be seen from the average, minimum, and maximum values. However, the spatial pattern of multidimensional poverty shows different things (Fig. 1).
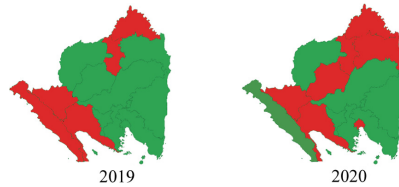
Fig. 1. Spatial Pattern of Multidimentional Poverty in 2019 and 2020

The red area on the map has a percentage value that is greater than the average value for districts and cities in Lampung province. Visualization of thematic maps provides information that the number of areas defined as poor multidimensionally with values above the average will increase in 2020. Bandar Lampung City was even identified as red. The decline in the average value of multidimensional poverty does not appear to have occurred evenly for the fifteen districts and cities in Lampung Province (Fig. 2).
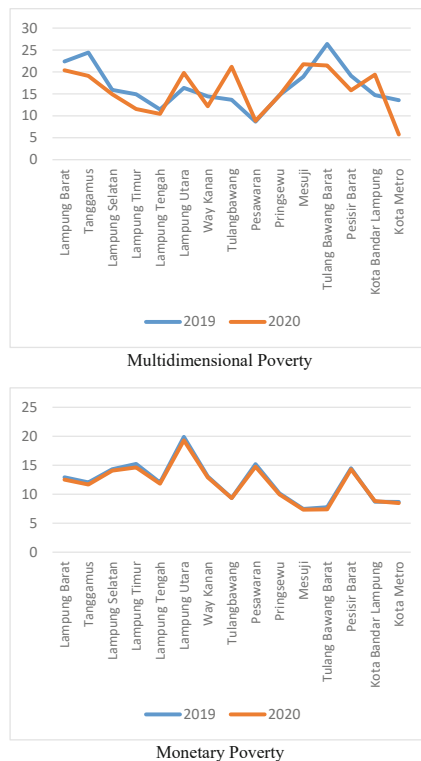
Fig. 2. The Pattern of Multidimentional Poverty and Monetary Poverty

The presentation of multidimensional poverty over the two years of observation shows fluctuations. Most of the observation areas experienced a decrease in the value of poverty except for the districts of Lampung Utara, Tulang Bawang, Pesawaran, Mesuji,

and Bandar Lampung City. Different things happened with poverty conditions with the monetary method, Bandar Lampung City experienced an increase in poverty rates. In addition, the movement of multidimensional poverty values has a random pattern while monetary poverty is relatively the same.

The purpose of this study is to compare the number of multidimensional poverty with monetary poverty. In addition to the different movement patterns, it turns out that the number of people who are defined as poor is also different (Fig. 3).

H is multidimensional poverty and P is monetary poverty. In 2019 there were four regions where the percentage value of monetary poverty was greater than multidimensional poverty. These areas are Lampung Timur, Lampung Tengah, Lampung Utara and Pesawaran Regencies. This condition is slightly different in 2020, Way Kanan Regency and Metro City also have a higher monetary poverty value than multidimensional, but Lampung Utara is the opposite.

Several previous studies also found the same result, the value of multidimensional poverty is greater than monetary poverty, as was done in Uganda [2], Cameroon [3] and Indonesia [11, 12]. Indriani and Setiyono (2018) using the Alkire and Santos (2010) method also found that the percentage of the multidimensional poor was greater than the percentage of the monetary poor in Central Java. In addition, the pattern of changes in the percentage of poverty between regions during the three years of observation is similar to that in Lampung Province.

Fig. 3. The Comparison of Multidimensional Poverty and Monetary Poverty

5 Conclusion

The percentage of poor people calculated by the multidimensional method in the districts and cities of Lampung Province is greater than the population calculated by the monetary method.

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